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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/649,479	08/28/2000	Edward L. Wright	SATC-005	8426

7590 06/19/2002

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EXAMINER

LEE, BENNY T

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 06/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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	5

DATE MAILED:

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

- ☒ This application has been examined ☐ Responsive to communication filed on \_\_\_\_\_ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire Three (3) month(s), 60 days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948.                  |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449       | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474      | 6. <input type="checkbox"/> _____   |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-7 are pending in the application.  
Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
2. ☐ Claims \_\_\_\_\_ have been cancelled.
3. ☐ Claims \_\_\_\_\_ are allowed.
4. ☒ Claims 1-3; 4-6; 7 are rejected.
5. ☐ Claims \_\_\_\_\_ are objected to.
6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.
8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. These drawings are: ☐ acceptable; ☐ not acceptable (see explanation).
10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_ has (have) been ☐ approved by the examiner, ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved, ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.
12. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received  
☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

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The disclosure is objected to because of the following informalities: Page 5, lines 17, 18, note that it is unclear whether reference to "Figure 1" is correct. If such a reference is correct, then should "Figure 5" also be designated as --prior art--. Page 11, line 5, note that "is not evenly dispersed 125" is vague in meaning. Page 12, line 1, note that "of the present invention" should be deleted as being unnecessary.

Appropriate correction is required.

The disclosure is objected to because of the following informalities: Note that the following reference labels need to be described relative to the corresponding drawing figure: figs. 1, 7 (R, CL, various descriptive wording); figs. 2, 4 (various descriptive wording); fig. 3 (18, 20, various descriptive wording); figs. 8, 9 (CL); fig. 9 (125, 139, 140, 142, AIR); fig. 10 (126).

Appropriate correction is required.

The drawings are objected to because of the following: In the drawing sheets containing figs. 1/4 and 5/7, the descriptive on these drawing sheets should be entirely deleted; In figs. 1/2, note that these figures need to be designated as --PRIOR ART--; In figs. 5, 8, 10, it is unclear whether these drawing figures should also be designated as --PRIOR ART-- since the specification gives some indication to such status; In fig. 10, reference label (152) appears to be improperly used to denote different features (i.e. magnet and return plate). Clarification is needed. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

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Claims 4-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, note that it is unclear, even in light of the specification, what characterizes "(second) open pole pieces...?".

The following claims have been found objectionable for reasons set forth below:

In claim 1, note that "being constructed" should be rephrased as --having a configuration-- to avoid the method connotation.

In claim 2, line 1, note that "the region of" should be deleted and --is defined by a region which-- should follow collector for a better characterization; line 3, note that "the" should be deleted as being unnecessary.

In claim 4, line 1, note that "formed" should be rewritten as --configured-- to avoid the method connotation.

In claim 7, note that "forming" should be rewritten as --providing-- to avoid the method connotation.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-3 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by either Kosmahl reference (i.e. '850 or '656).

Kosmahl ('850) in fig. 1 thereof discloses a magnetic focussing structure and a multi-stage depressed collector for a microwave tube which is not depicted. Although the microwave tube is not depicted, those of ordinary skill in the art recognize that such microwave tubes inherently include a cathode, an anode, an RF or microwave energy generation stage in addition to the above note focussing and collector stages.

Similarly, Kosmahl ('656) in Fig. 1 thereof discloses a microwave tube (10) with a cathode (13), an anode (18), an RF or microwave generation circuit therebetween, a magnetic focussing structure (14, 19) surrounding the anode generation circuit, and a multi-stage depressed collector which returns electrons via conductive path (36) to the cathode.

In each of the above references, it can be seen that there is no magnetic field flux appearing in each collector region of the microwave tube as depicted in Fig. 2 of each reference. Accordingly, as a result of magnetic field flux in each collector, the spent electron beam inherently disperse evenly within the multi-stage collector through space discharge effects as well as the energy of such spent electrons.

Claims 4, 5; 7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by either Satou, Nelson et al or Berwick (cited by applicant's).

Satou (figs 2, 3) disclose a microwave tube (e.g. a Klystron) having a electron gun (1) for generating an electron beam, a high frequency circuit (2) for interacting with the beam of

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electrons and a collector (3) for receiving spent electrons. Additionally, a magnetic focussing drive structure is provided including a gun-only pole piece (4) which is adjacent the electron gun (1) and a closed magnetic structure (9) adjacent the collector (3). As described in the abstract and depicted in Fig. 2, if the thickness of magnetic structure increases, then less magnetic field flux is present in the collector (e.g. see curve 13 of Fig. 2), and hence the electrons received by the collector inherently disperse in a manner not affected by magnetic field flux.

Nelson et al (fig. 1) discloses a microwave beam tube (11) with an electron gun assembly (12), an interaction circuit (15) for microwave interaction with the electron beam, and a collector section (14) for receiving spent electrons. Also, a magnetic focussing structure is provided including an electron gun pole piece (18) with a gun- only magnetic (21) is provided adjacent the electron gun. Moreover, a pole piece (19) magnetically shields and isolates the focussing magnetic field from the collector (14).

Berwick (figs. 2, 3) discloses a linear-beam electron tube including electron gun (16), interaction region (19') for providing microwave interaction with the electron beam, and collector structure (23') for receiving spent electrons. A magnetic focussing structure includes a gun-only magnet (10') and pole piece (12') adjacent electron gun (16') and further includes integral yoke (11') and pole piece (13'), where closed pole piece (13') is adjacent to and shields the collector from any focussing magnetic flux as depicted in Fig. 3. As a result of no magnetic field flux in the collector, the spent electrons inherently disperse in a manner consistent with the lack of any

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magnetic field flux. Any inquiry concerning this communication should be directed to <sup>B</sup>Benny  
Lee at telephone number (703) 308-4902.

A handwritten signature in cursive script that reads "Benny Lee".

BENNY T. LEE  
PRIMARY EXAMINER  
ART UNIT 2817

B. Lee/mm

06/05/02.